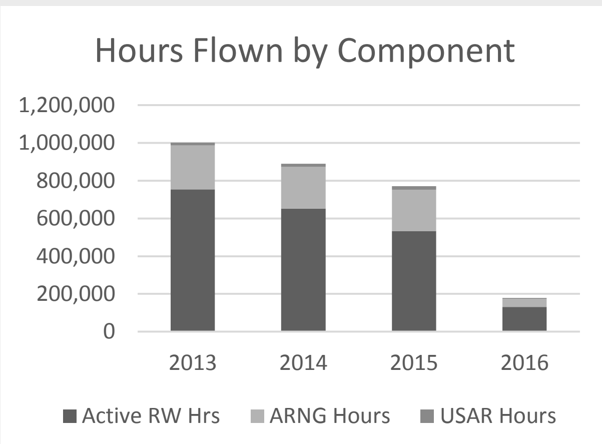
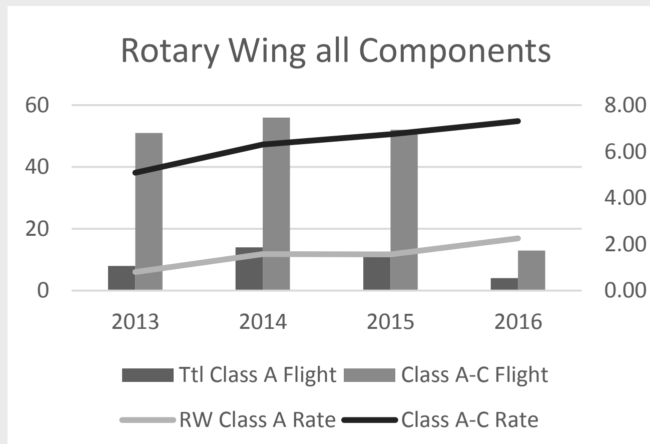
Number 51 September - December 2015

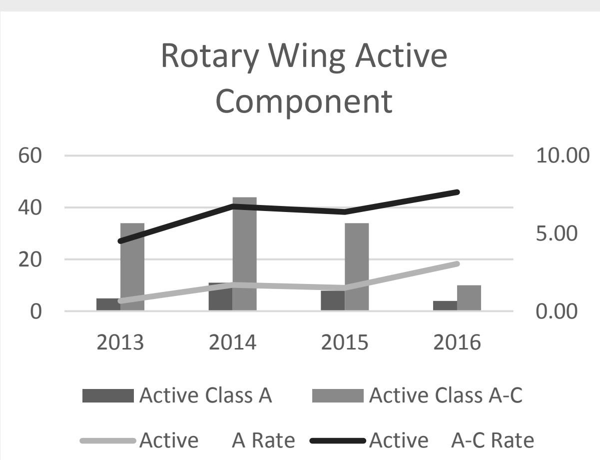
Flightfax®

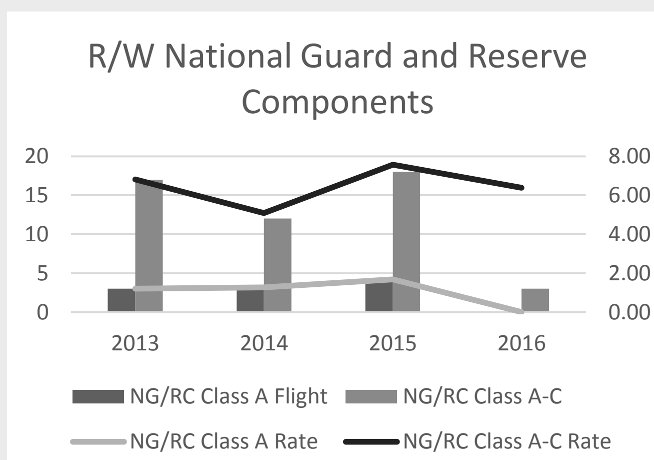
Online newsletter of Army aircraft mishap prevention information

Army Aviation has seen a 30% increase in Class A-C mishaps over Fiscal Years 2013 – 2015, with a corresponding decrease in flying hours by approximately 25%. In the same period, non-deployed mishaps accounted for nearly 70% of the Class A accidents, a near reversal of previous trends. Given the FY 13 historic low starting point, the fluctuating rates by component and varying causal factors since then, these accidents don't indicate a specific trend but there is concern that these mishaps are a harbinger of future accidents.









As the Army experiences a reduction in manpower, decreasing budgets and an increasing OPTEMPO to train a globally deployed and regionally aligned force - Army Aviation faces significant training and risk management challenges to keep pace. We are asking aviation units to train a force that is more flexible, lethal, and adaptable. To succeed in the Decisive Action Training Environment aviators must train on a wider array of tasks. Some skills are new; attack helicopters taking on increased scout and reconnaissance roles and manned and unmanned teaming (MUM-T). Other tasks are combined arms maneuver skills that have languished over the last decade as

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we focused on Counter Insurgency Operations (COIN) in Iraq and Afghanistan. Terrain and nap of the earth flight, hovering fire, external loads, collective gunnery and larger scale multi-aircraft operations are increasingly important. As we reset task lists and go beyond currency to build new proficiencies we can expect a transitional increase in risk.

The transition from COIN to Decisive Action requires aviation units to increase their overall proficiency from the Team/Platoon level required for COIN to the Company/Battalion level maneuver required for Decisive Action. The types of hazards encountered are not new; they're the same ones Aviators have always faced. However, proficiency suffers as flying hours, time on the controls, and the frequency of task iterations decrease -- increasing the risk level and with it the probability of an accident. If the hazards from this transition aren't properly identified and the risk mitigated to an acceptable level, the result could lead to a real trend in increased aviation mishaps.

The Army Chief of Staff and Vice Chief of Staff are very concerned with the recent increase in mishaps and have directed a holistic assessment of Aviation which will examine leadership, readiness, training, sustainment, resourcing, policy, and other areas as required. This assessment will undoubtedly yield benefits for the entire force over time. Meanwhile, every Commander can take action now to assess their own Aircrew Training Programs, aggressively manage this transitional risk, and optimize the resources they have. Higher collective training proficiency coupled with pro-active hazard identification, risk reduction, and rigorous mission risk approval processes will prevent loss and buttress readiness in every formation.

Class A – C Manned Aircraft Mishap Table

	Manned Aircraft Class A – C Mishap Table									as of 30 Dec 15
	Month	FY 15					FY 16			
		Class A Mishaps	Class B Mishaps	Class C Mishaps	Fatalities		Class A Mishaps	Class B Mishaps	Class C Mishaps	Fatalities
1st Qtr	October	0	1	3	0		1	3	5	0
	November	2	0	2	2		2	1	0	6
	December	1	1	3	0		1	1	1	2
2nd Qtr	January	2	0	6	0					
	February	0	0	0	0					
	March	2	1	10	11					
3rd Qtr	April	0	1	1	0					
	May	1	3	5	0					
	June	1	0	8	0					
4th Qtr	July	2	3	7	0					
	August	2	1	3	0					
	September	1	1	3	0					
	Total for Year	14	12	51	13	Year to Date	4	5	6	8
	Class A Flight Accident rate per 100,000 Flight Hours									
	5 Yr Avg: 1.28		3 Yr Avg: 1.25			FY 15: 1.52		Current FY: 2.02		

Preliminary Report on FY15 Aircraft Mishaps

In the **manned aircraft** category, Army aviation experienced 77 Class A-C aircraft mishaps in FY15. This is an increase from the 74 Class A-C aircraft mishaps reported in FY14, including an increase in fatalities from 6 to 13. There was a decrease in Class A mishaps from a total of 16 in FY14 to a total of 14 in FY15.

	2014	2015
CLASS A	16	14
CLASS B	8	12
CLASS C	50	51
TOTAL	74	77
FATALITIES	6	13

CLASS A Summary: There were 14 (13 flight, 1 flight related) Class A mishaps, seven of which occurred at night. Four of the 14 occurred in Iraq/Afghanistan. Human error was the cause factor in 11 (79%) of the mishaps. Materiel failure or suspected materiel failure was contributing in two (14%) of the mishaps. There was one environmental-related mishap. Two flight mishaps resulted in 13 fatalities.

The flight category Class A mishap rate (RW+FW) for FY15 was 1.52 (Class A flight mishaps per 100,000 hours of flight time). For FY 14, the rate was also 1.52.

CLASS B Summary: 12 (all Flight) Class B incidents were reported, 11 with a human error cause factor and one materiel failure. Five mishaps occurred at night. 12 total mishaps represent a 33% increase from FY14.

CLASS C Summary: 51 (40 Flight, 9 Ground, 2 Flight-related) Class C mishaps reported with 11 occurring at night. Cause factors included 26 human error, four materiel failures, five environmental (typically bird strikes), and 16 unknown or not reported.

Operational Assessment :

Human Error: Degraded visual environment was a contributing factor in three Class A, two Class B, and three Class C aircraft mishaps. This included two Class A night IIMC, one Class A dust landing, two Class B dust landing events and three Class C dust events. There were 11 fatalities associated with a single IIMC mishap. Power/maneuver management contributed to two Class A and one Class C incidents. Additional Class A mishaps included one fratricide, one mid-air, and one shipboard operation.

Materiel Failures: Class A materiel failures included one engine failure (AH-64D) and one flight control malfunction (MH-6M). One Class B - a main rotor blade failure in flight (H-60).

2015 breakdown by aircraft type:

	Class A	Class B	Class C
H-60	7	9	16
AH-64	3	2	3
H-47	0	0	8
OH-58D	1	0	2
LUH-72	0	0	3
TH-67/OH-58	0	1	2
AH/MH-6/MD530	2	0	5
Mi-8/17	0	0	2
C-12/26/27/37/UC-35	1	0	9
EO-5C/DH-7	0	0	1

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Synopsis of selected FY15 accidents (* denotes night mission)

Manned Class A

* AH-64D: During demonstration of DECU lockout maneuver, both engines shut down following overspeed condition. Aircraft crashed resulting in two fatalities.

* UH-60A: Aircraft spun right as it came to a hover. Aircraft landed hard with main rotor blades contacting adjacent cement barriers. The #1 hydraulic pump module return line QD was found disconnected resulting in a tail rotor fixed pitch setting.

* C-27J: During NVD training flight aircraft was involved in a mid-air collision with a C-130. Both aircraft landed with damage.

* UH-60A: Following a night VMC unaided takeoff the aircraft entered a layer of fog with the landing light on. The pilot on the controls lost orientation with outside visual references and started an uncorrected descending right turn until it impacted the ground.

* MH-6M: Materiel failure. Aircraft struck trees. Suspected flight control malfunction.

* UH-60M: Shortly after takeoff for an overwater NVG mission the crashed into the water at a high rate of speed and descent, resulting in 11 fatalities and catastrophic damage.

* HH-60M: Aircraft landed hard during dust landing training. Main rotor blades contacted and severed the drive shaft.

- MD530FF: During landing at high altitude, aircraft lost tail rotor effectiveness and crashed.

- UH-60L: While hover-taxiing to parking, the aircraft encountered an unforecasted sudden wet microburst with a severe downdraft wind. The aircraft entered a left descending yaw impacting the ground and coming to rest on its left side.

- AH-64D: Aircraft experienced a number two engine failure at 66 feet above ground level. The aircraft weight and environmental conditions at the time of the engine failure precluded single engine flight. The crew was able to perform a forced landing emergency procedure and arrest some of the descent before the aircraft struck the ground causing severe damage.

- AH-64E: Fratricide incident reported.

- H-60M: While landing on a ship, the main rotor blades contacted the ladder cage on the bow mast multiple times. Aircraft landed hard on the ship's deck resulting in 7 injuries and severe damage to the aircraft.

- OH-58D: During a maintenance test flight, an unsecured aircraft cover struck the tail rotor. Aircraft descended into trees.

- UH-60L: Crew was performing combat maneuvering flight and initiated a 60-degree right bank angle with a 24 degree nose low attitude and was not able to recover due to exceeding aircraft performance limitations and insufficient altitude. The aircraft was destroyed and the crew was injured.

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In the **unmanned aircraft systems**, there were 22 Class A – C incidents with five Class A, seven Class B, and 10 Class C mishaps reported. The Class A mishaps included one aerostat balloon, three MQ-1s, and one MQ-5B. The RQ-7Bs comprised 13 of the 17 Class B and C mishaps with cause factors relating to engine failures, landing problems, and lost link.

2015 breakdown by aircraft type:

	Class A	Class B	Class C
MQ-1	3	2	0
MQ-5B	1	0	1
RQ-7B	0	5	8
RQ-20A	0	0	0
RQ-11	0	0	1
Aerostats	1	0	0
Total	5	7	10

Synopsis of selected accidents (FY15):

UAS Class A

- MQ-5B: Aircraft contacted arresting gear drum on landing.
- MQ-1C: Uncommanded descent with engine RPM fluctuations.
- MQ-1C: Lost linked following GCS shutdown. UA failed to return.
- MQ-1C: Alternator failure.

Aerostat Class A

- PGSS: Aerostat tether broke while lowering.

Other UAS mishaps

- RQ-7B: During approach UA lost power at 30 feet resulting in a hard landing. (Class B)
- RQ-7B: Engine malfunction. Chute deployed. UA recovered with damage. (Class B)
- MQ-1C: Gear collapsed on landing. (Class B)
- RQ-7B: UA lost engine RPM after launch and crashed. (Class B)
- MQ-1C: UA descended after takeoff – hard landing. (class B)
- RQ-7B: Flap servo failure. Chute deployed. UA recovered with damage.
- MQ-5B: UA departed runway on rollout following landing. Damage to landing gear. (Class C)
- RQ-7B: ECU COMMS Fail, Ign and gen fail. Chute deployed. (Class C)

Men marry women in the hope they won't change. Women marry men in the hope they will change. Both are doomed to disappointment.

AH-64 BEARING CAP TOOL

CW4 Richard Crabtree
Directorate of Evaluation and Standardization
U.S. Army Aviation Center of Excellence
Fort Rucker, Ala
AH-64D/E Maintenance Test Pilot Evaluator

During recent assessment visits to five locations, DES has identified the use of an unauthorized tool referred to as the "Lead Lag Link Bearing Cup Wrench" or the "Spatula." This tool is not an issued item, but is commonly being used to align the main rotor bearing caps during installation, loosen them during removal, and to realign them in the event they rotate during flight.

AH-64-07-ASAM-11 and the AH-64 IETM instructs maintainers to check for a gap greater than .020" between the bearing cap and the retainer every 25 flight hours. If this gap cannot be reduced below .020" by reseating or replacing the retainer, then both references instruct the maintainer to remove the main rotor blade and lead lag link assembly and replace the hub bearing. By using this unauthorized tool as a time-saving measure to turn the bearing cap back into position, Soldiers may be inadvertently masking internal wear that is causing the caps to rotate. This type of procedure may seem logical and resourceful to a Soldier or supervisor who doesn’t understand the purpose and background of the ASAM, however, the results of using this unauthorized tool are potentially catastrophic.

DES is concerned that this tool is not authorized by the IETM or any separate references available to the unit, yet its use is being discovered at nearly every location visited. More importantly, unauthorized maintenance practices such as this may be masking much more serious aircraft deficiencies, which will go unnoticed due to failure to adhere to authorized, published maintenance standards. Although this particular example is specific to the AH-64, it provides all units the opportunity to self-assess their own maintenance practices, determine whether they are in accordance with approved standards, and take appropriate corrective actions.

--CW4 Crabtree, DES AH-64D/E MTFE, may be contacted at (334) 255-1446, DSN 558.

Class A – C Unmanned Aircraft Mishap Table

UAS Class A – C Mishap Table									as of 30 Dec 15
	FY 15					FY 16			
	Class A Mishaps	Class B Mishaps	Class C Mishaps	Total		Class A Mishaps	Class B Mishaps	Class C Mishaps	Total
MQ-1	3	2		5	W/GE	1			1
MQ-5	1		1	2	Hunter				
RQ-7		5	8	13	Shadow			1	1
RQ-11			1	1	Raven				
RQ-20					Puma				
YMQ-18									
SUAV					SUAV				
UAS	4	7	10	21	UAS	1	0	1	2
Aerostat	1	0	0	1	Aerostat	1			1
Total for Year	5	7	10	22	Year to Date	2	0	1	3

Accident findings: From the archives for your review

FINDING 1: (Present and Contributing: Human Error - Individual and Leader Failure):

While conducting night vision goggles (NVG) gunnery training at approximately 110 feet above ground level (AGL) and 90 knots indicated airspeed (KIAS), the crew of the OH-58D failed to scan. That is, the pilot in command (PC) and pilot (PI) did not properly scan outside the aircraft when distracted with radio communications. This is in contravention of Training Circular (TC) 1-248, Tasks 1408 and 1026. As a result, the aircraft made contact with wires at approximately 115 feet AGL, causing separation of major aircraft components and impacting the ground. The crew received fatal injuries and the aircraft was destroyed.

The crew's actions were a result of limited NVG experience and overconfidence in each other's abilities to conduct NVG training under zero illumination in the vicinity of known obstacles.

Margin of Survival

"They sounded so calm." It's almost always the first thing you notice about cockpit recorder audio as a doomed aircrew enters a degraded visual environment. Like a frog in a pot of cool water just sits there as it is slowly brought to a boil, those haunting voices remain so calm; only alarmed at the very last moments, if at all.

From outside the aircraft, listening to the voices and watching the animation of the IVHMS data, you want to scream at them, shake them, wake them out of their disorientation and tell them how to save their own lives! Yet, it's too late. There's pictures of the aftermath. They're gone. But, hadn't they been in your seat? Hadn't they seen the animations and pictures? Hadn't they heard the voices? Why didn't they see it coming? It begs the question: What could we do differently, train differently, to save the next crew? How do we keep our brothers, sisters, and ourselves from calmly hurtling toward our own demise?

I think we need margin. A simple word that most people don't use unless trying to write a memo or get an Excel sheet to print on one piece of paper. We hear about margin of error in calculations or predictions. But, as aviators, we don't use margin and it may be what is killing us.

So, what is margin? The margins on a sheet of notebook paper keep the writer's pen from slipping off the paper and protecting the desk. The margins in a book protect the printed information from being lost to damage from the outside. Margin is an indicator to keep us safely away from the edge, away from that absolute limit. We can apply margin in aviation to keep us away from insidious dangers, away from that absolute limit from which no one returns.

But how do you apply margin? Simple, draw a line. We know the limitations given in 95-1, -10s, SOPs and the FARs. We are encouraged to assess ourselves and set personal limits for weather, crew mix, mission complexity and physical and mental state. But we need to establish margins on those limits.

Here's how:

1) Determine how far back from the limit you have to be to safely turn the situation around.

2) Know how you will react when reaching that point.

3) Brief your crew. An individual is much less likely to change their standards in the moment if someone is there to hold him accountable. Direct assistance from the people whose lives depend on your margin.

4) Repeat as necessary.

But please, don't stop at aviation. Look at every aspect of your life. Margin can be applied to standards of morality, sobriety, tact, professionalism, etc. Like bumpers on a bowling lane, it will keep you going in the right direction.

CW2 Jesse L. Tait
Instructor Pilot
2CAB, Korea

Safe winter flying means training and maintaining (Sep 93)

Nature has a way of keeping aircrew members on alert. Throughout the year, each season adds a little something extra for them to think about before the next mission. Sometimes the weather even surprises a crew during the mission with unexpected changes. As the winter season approaches, a combination of cold temperatures, high winds, ice, and blowing and drifting snow – hazards that greatly increase the likelihood of a winter-related accident – will soon be challenging crews.

We don't hear too much about successful winter aviation operations. But we do hear about the ones where crews were unprepared to handle the elements the winter season added to the aviation safety equation. The Safety Center's data base has lots of information taken from accident scenarios about what happens when crews aren't prepared and fail to follow accepted standards and procedures.

The present rightsizing of the Army and corresponding reduction in available resources makes it readily apparent that losses due to costly accidents cannot continue. The Army simply cannot maintain its warfighting capability when trained crewmembers and hard-to-replace aircraft are lost in preventable cold-weather accidents.

Improper cold-weather operational and preventive maintenance procedures and inadequate training and mission planning are often cause factors in winter-related accidents. Overcoming cold-weather environmental problems is not impossible. To ensure safe mission accomplishment during the harshest season of the year, now is the time to start preparing.

Preventive maintenance procedures

Crew chiefs and maintenance personnel should consult applicable operators and technical maintenance manuals to determine those extra procedures required to safely operate and keep aircraft running in cold weather. Some specific tips on cold-weather preventive maintenance for your aircraft are shown in the accompanying article.

Training

Units should develop a cold-weather training plan that ensures aviators are familiar with flight techniques to use during winter flying before it becomes necessary to use them. Most units require that aviators not trained or current in winter operations demonstrate proficiency to an instructor pilot before being released for regular missions. Special consideration should be given for night checkouts when night vision systems are to be used.

- Scenario. While attempting to avoid whiteout during an NVG blowing-snow approach to a frozen lake surface, the UH-1 pilot maintained excessive airspeed to touchdown. After touchdown, he attempted to aerodynamically brake the forward motion of the aircraft. The aircraft slid 309 feet before coming to a stop slightly right of another aircraft that had already landed in the LZ. As the pilot leveled the rotor system, it struck the rotor system of the other aircraft, causing major damage to both aircraft and minor injuries to one crewmember.

The pilot failed to anticipate the effects of excessive closure speed because of his inadequate experience and lack of formal NVG unit training in the harsh conditions of cold-weather environment.

Additional training is needed for unaided snow takeoffs and landings too. Many accidents result when crews encounter whiteout.

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- Scenario. While landing to a sloping, snow-covered field, the pilot encountered whiteout and lost all visual reference. The aircraft rolled left and entered the trees, coming to rest on its left side. Although the pilot was familiar with various snow-landing techniques, he selected an approach-to-the-ground technique that was not suitable for the landing site selected. After touching down, he felt uncomfortable with the slope and attempted to abort the landing while engulfed in whiteout.

Another problem occurs when crews attempt to land with a tail wind, which increase the difficulty in keeping ahead of the snow cloud during approach. Make landings to areas that provide vertical relief and contrast to use as reference points and to aid in depth perception.

Aviators should always leave themselves an out – never commit to a course of action or a maneuver that cannot be aborted or fail to leave room to accomplish a go-around. Follow procedures outlined in Army regulations, local policies and procedures, and FM 1-202: Environmental Flight.

Ensuring winter survival kits are on board the aircraft is not enough; crewmembers must be thoroughly trained in cold-weather survival kit components. Don't wait until you need to use an item in your winter survival kit to see if it works or even how it works.

Unit train-up should follow the crawl-walk-run principle to ensure that adequate individual, crew, and small unit proficiency in required skills is achieved before participation in a major field exercise. This is not restricted just to aviator training; maintainers need to fine-tune their cold-weather procedures to be able to provide around-the-clock support for air operations.

Mission planning

Effective risk management is the best method to ensure safe operations. Managing the additional risks that result from winter operations demands increased attention to detail from the mission planning phase through preflight checks and post-flight shutdown and inspection.

Unit operations personnel and aircrews must identify and assess hazards associated with adverse weather conditions expected to be encountered during winter flying. Integrate force protection (safety) into mission planning by eliminating unnecessary risks and implementing controls to ensure that those risks that cannot be eliminated are reduced to the lowest level possible.

Remember that cold weather makes everything, especially maintenance, more difficult and time consuming to accomplish. Even moving aircraft around on the ramp requires more caution during the winter season. Speeds at which aircraft are towed must be slower because control is harder to maintain while turning or stopping. Plan for the extra time that will be needed.

Don't forget to carefully select aircraft landing and parking areas in field sites. If you choose the wrong area, a sudden thaw can cause aircraft to sink to their belly panels in mud, or the landing gear can freeze to the ground during the night.

- Scenarios.

* The UH-60 was landing in a snow-covered LZ. The LZ was marked by an inverted Y, and each landing spot was marked by a separate light. Upon landing, the UH-60 settled in the snow and sank into the mud.

* The UH-1 crew performed a blowing-snow approach to semi-frozen muskeg. When the pilot attempted to take off, the crew realized the left skid had frozen in the ice and snow. The PC applied pressure/counter pressure to the tail rotor in an attempt to free the ski. When the ski broke free of the frozen slush, the aft mount strap failed and the aft portion of the ski broke off.

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Preflight

Ensuring that the aircraft is ready to perform is as much the responsibility of the pilot as it is the crew chief and the maintenance personnel. This is particularly important during adverse weather conditions. During preflight checks, crews should look for "hurried" maintenance caused by mechanics rushing to get out of the cold and "forgotten" steps caused by numerous trips to the warming tent.

To ensure aircraft airworthiness, unprotected and even some protected parts require close scrutiny. Icing on aircraft control linkages and surfaces can reduce aircraft performance, alter flight characteristics, and/or restrict control movement. Before flight, check to see that blade and propeller surfaces are free of ice, frost, and snow. Remove ice with heat or deicing fluids. Check the technical manual for your aircraft for correct procedures.

- Scenario. During a UH-60 engine start, the pilot advanced the power control levers to the idle position and a lateral vibration began that increased to a moderate intensity. The crew aborted the start and shut down the aircraft. Inspection revealed some ice buildup near the main rotor blade tips. The crew had failed to anticipate and check for ice buildup during preflight.

Leaks may appear more frequently due to contraction and expansion of metals as a result of temperature extremes. Suspected leaks should be checked before takeoff but after the systems are in operating temperatures and pressures.

Aircraft run-ups take a little longer during cold weather. Oil and lubricant pressure readings tend to indicate higher than normal. And engine instruments driven by tachometers may indicate lower than normal indications on initial engine start. Additional running at engine-idle settings is required until normal readings are attained. Hurried aircraft run-ups can cause water vapor to condense inside components and freeze, which could result in split oil coolers or blocked oil lines.

Post-flight

Don't give in to the desire to hurry up and get in out of the cold; follow the checklist.

- Scenario. While air-taxiing into a tactical parking area, the pilot-in-command (PC) made an improper decision to execute a blowing-snow approach (without a visual, fixed reference point) to a location close to another UH-1 operating at engine idle in its assigned parking point. The main rotor blades of the two aircraft meshed.

Other prudent options were available to the PC that would have assisted him in maintaining proper ground track and clearance from the other aircraft. But he was overconfident in his abilities to execute the blowing-snow approach. And he was anxious to secure the aircraft and move in out of the cold. The crew had just completed cold refueling in subzero temperatures and were extremely uncomfortable.

Even if you are cold and in a hurry to get in, remember to top off fuel tanks at the end of the flight. Don't forget to put blade bags on the blades to assist in preventing ice buildup. And remember that the best time to check oil levels is during post-flight inspection while they are at operating temperatures.

The harsh environment sometimes encountered during the winter season requires that even the most routine aviation missions be well planned and meticulously executed. Winter flying is a difficult task even for the most experienced aviators. But thorough preparation, effective preventive maintenance procedures, proper training, and adequate mission planning will allow units to safely deal with the hazards associated with winter operations.

-then CW4 Adrian Booth, Investigations Division (1993).

Cold Weather tips

- Allow time to become acclimated to colder temperatures. If you're non-acclimated, you will encounter difficulties at even warmer temperatures above -10 degrees F.
- Wear artic mittens with the leather shell's wool finger insert or the trigger finger mitten wool insert inside the artic mitten to keep hands warmer in temperatures of -20 degrees F and colder. This serves two purposes: hands stay warmer and the wool inserts protect the skin form exposure to cold temperatures, thus preventing cold-weather injuries and direct contact with metal items.
- Don't blow warm breath into mittens or gloves. Air from the lungs contains moisture that will condense on the hands and wet the inside of the gloves, contributing to further hand cooling.
- Think twice before removing mittens or gloves. It doesn't take long to suffer the effects of frostbite.
- Use the buddy system when you're out in the cold. Keep an eye on each other for signs of cold-weather injuries. Remember, not everyone has the same threshold for the cold and its elements.
- Don't forget to do frequent self-checks even though you're using the buddy system.
- Make sure you eat and drink fluids more often than normal to replace what your body is using. Your body burns more energy (calories) in cold weather trying to keep warm. Remember, you can dehydrate in cold temperatures too.
- Expect to take twice as long to complete the job when working outside in extreme cold weather (25 degrees F and below). Allow plenty of extra time in your planning.
- Keep small batteries warm until needed – for example, in your pocket – so you'll have power when needed.
- Concentrate on the mission at hand. Your mind starts to drift when your body gets cold. Stay focused.
- Carry an individual cold-weather survival kit at all times.
- Be prepared for sudden weather changes. Wear clothing appropriate for the coldest weather you expect to encounter.
- Cold-weather clothing protection is based on the principles of insulation, layering, and ventilation. When using cold-weather clothing, remember to keep it clean, avoid overheating, wear it loose in layers, and keep it dry.
- See your flight surgeon if you feel a seasonal "cold" coming on. Don't wait until your "cold" gets too serious and causes prolonged medical downtime from flying.

Aviation Case Study: Delayed Reaction (Icing)

https://www.youtube.com/embed/0JkLR_xgayM

Bad officials are elected by good citizens who do not vote.

Selected Aircraft Mishap Briefs

Information based on preliminary reports of aircraft mishaps reported in September 2015.

Observation helicopters

OH-58 

-C Series. Aircraft experienced an engine failure on take-off. Landed hard. (Class C)

Attack helicopters

H-64 

-D Series. Aircraft rolled rearward and downslope after touchdown on the LZ and the tail boom subsequently made contact with terrain. (Class B)

Utility helicopters

H-60 

-L Series. Lead ship in a flight of two UH-60 aircraft impacted trees approx. .5 NM shy of the intended HLZ. (Class A)

UH-72 

-Aircraft experienced a ‘hot start’ during engine run-up for an MOC. (Class C)

Fixed-wing

C-12 

-D Series. During routine training aircraft reportedly landed hard during tough-and-go landing training to the airfield. (Class C)

Unmanned Aircraft Systems

RQ-7B 

-Crew experienced RPM fluctuations, followed by a GEN FAIL warning, after entering the TALS Loiter mode for landing. (Class B)

-Crew experienced an engine failure while system was descending for landing. (Class C)

Information based on preliminary reports of aircraft mishaps reported in October 2015

Attack helicopters

H-64 

-D Series. Aircraft contacted a ground obstacle during a movement-to-contact maneuver and crew subsequently executed a controlled landing. (Class A)

-D Series. During ILLUM rocket engagement aircraft impacted the ground upright. (Class B)

Utility helicopters

Mi-17V1 

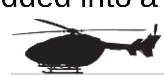
-Crew reportedly encountered brown-out conditions during initial approach to land and struck a 40-50’ pole. (Class B)

-Aircraft tail rotor made contact with a brick wall during approach to land at the LZ in dusk/near-dark condition. (Class B)

H-60 

-M Series. During aircraft HIT check crew heard the sharp reports associated with a compressor stall and immediately shut down the engine. (Class C)

-L Series. While conducting engine run-up crew heard a ‘metallic’ report and saw flying debris. Inspection revealed a balance washer imbedded into a main rotor blade. (Class C)

H-72 

-Crew was conducting an ‘engine failure emergency’ for hoist-operation training when the hoist and rescue seat became entangled in the skid step during recovery. (Class C)

-#1 Engine hydraulic cover was determined to have opened during flight, resulting in contact with/damage to all 4 MRB. (Class C)

Continued on next page

Selected Aircraft Mishap Briefs

Information based on preliminary reports of aircraft mishaps reported in October 2015 cont..

Observation helicopters

OH-58

-A Series. Aircraft reportedly emitted a loud report, followed by engine and rotor RPM droop, during a VMC approach. Aircraft touched down hard. (Class C)

Aerostat

JLENS

-Control over the aerostat was lost due to a tether cable failure. (Class A)

Information based on preliminary reports of aircraft mishaps reported in November 2015.

Utility Helicopters

H-60

-A Series. After aircraft was reported to have missed its initial checkpoint during a training flight, the wreckage was discovered. Four fatalities. (Class A)

-A Series. Aircraft experienced a lightning strike while in flight. Post-flight inspection revealed damage to antennae and on main rotor blade. (Class B)

Attack helicopters

H-64

-D Series. Aircraft struck wires during NVD training flight and crashed fatally injuring both pilots. (Class A)

Information based on preliminary reports of aircraft mishaps reported in December 2015.

Utility Helicopters

H-60

-A Series. Maintenance crew experienced an 'Intermediate Gearbox' Chip Light indication during test flight and noted high speed vibrations while landing. Crew performed emergency engine shutdown and egressed due to smoke smell and fire emanating from the tail-cone of the aircraft. (Class B)

UH-72A.

Post-landing inspection revealed that three fasteners on the hydraulic access panel we missing and that it had partially opened in flight and made contact with all four MRB. (Class C)

Attack helicopters

H-64

-E Series. Aircraft was lead in flight of two at approx. 1K Ft MSL when the aircraft descended to ground impact, followed by post-crash fire. Both crewmembers were fatally injured. (Class A)

If you have comments, input, or contributions to Flightfax, feel free to contact the Aviation Directorate, U.S. Army Combat Readiness Center at com (334) 255-3530, DSN 558-3530

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